

THE AMERICAN JOURNAL OF OPHTHALMOLOGY.

VOL. XXV.

DECEMBER, 1908.

No. 12.

EDITORIAL NOTICE.

We regret to announce to our readers that with this number Dr. W. A. Shoemaker severs his direct connection with this Journal. We should feel this loss more poignantly if we could not at the same time announce that Dr. J. F. Shoemaker will in the future take his brother's place as assistant editor.



ILLUSTRATION FOR DR. C. J. KIPP AND DR. ADOLF ALT'S ARTICLE,
"TEAR OF THE OPTIC NERVE BY A BULLET. HOLE AT THE
MACULA." (*See Page 225.*)

PAIN OF ACUTE GLAUCOMA RELIEVED BY COCAIN
APPLIED TO MECKEL'S GANGLION.*

BY A. E. EWING, M.D.,
ST. LOUIS, MO.

In March, 1908, Dr. Greenfield Sluder reported to the Laryngological Society a number of cases of obscure headache which were relieved or cured by a 20 per cent. cocain solution placed in the nasal fossa over the region of the sphenopalatine ganglion. Regarding the definite location of this ganglion he remarks, "I have found the position of the sphenopalatine ganglion to vary, sometimes being deeper and sometimes superficial in relation to the external wall of the nose; sometimes in close relation to the apex of the maxillary sinus; sometimes close to the sphenoidal sinus; sometimes close to the post-ethmoidal labyrinth; sometimes higher, sometimes lower."

As to his mode of making applications, he says, "I then began the experiment of anæsthetizing the ganglion, or at least attempting it, by an applicator tipped with a very small amount of cotton, such as would be moistened by one drop of a twenty per cent. cocain solution, and placing it just over the ganglion, that is, as a rule, just posterior to the posterior tip of the middle turbinate. I found that for some patients it relieved all the symptoms completely and invariably. For some others it relieved all the symptoms except pain in the neck; for some it failed completely or helped very little. Where it succeeded I have thought the ganglion was close to the external wall of the nose, and where it failed it probably laid deeper."

The success attained by him in this class of cases led to the belief that the same treatment might give relief to the suffering of acute glaucoma through the branches from this ganglion that extend into the orbit, known as the ascending or orbital branches. They supply the periosteum of the orbit and communicate with the sixth nerve, the optic nerve and the ciliary or ophthalmic ganglion.

The very positive result obtained in the following case indicates that this line of treatment may be worthy of consideration. The patient was first seen in April, 1905, suffering with an acute

*Reported to the St. Louis Ophthalmological Society Dec. 14th, 1908.

glaucoma in the right eye, the pain of which was only relieved eventually by an iridectomy. On the 5th of December, 1908, she again appeared with an acute glaucoma in the left eye, having suffered the night previous with blurring of vision, the halo about the lamp, and later in the morning with intense pain through the eye and left side of the head. She had obtained partial relief from ten grains of aspirin taken during the morning. The lids were puffed and red, the anterior chamber shallow, the pupil 4.5 mm. in diameter, the globe hard and moderately injected. The disk was hyperæmic; upon the disk there was pulsation in the lower temporal artery; vision was 20/19, formerly was 20/15; field not taken. Eserine 0.5 per cent. oil solution was used and the patient was referred immediately to Dr. Sluder, who found the region of the nose on the left side adjacent to Meckel's ganglion decidedly inflamed and swollen. To this region he made an application of 50 per cent. solution of cocaine in the manner described above. Within a few minutes the pain in the eye and temple ceased entirely. A pilocarpine 0.5 per cent. oil solution was prescribed to be used every four hours.

The next morning vision was 20/15, lids were less puffed, tension normal, globe a very little injected, anterior chamber shallow, pupil 3.25 by 4.5 mm. in diameter, elongated vertically and a little eccentric upward and inward, field a little restricted to nasal side, no arterial pulsation, disk a very little hyperæmic; had no pain during the night, no sedatives were taken. Now, nine days later, the globe is quiet, the vision and the field are normal, tension is normal and there is no evidence of the attack except that the pupil remains eccentric and is elongated vertically. In the eye eserine 0.5 per cent. and pilocarpine 0.5 per cent. have been used alternating every four hours during the day. The inflammation in the nose has subsided under daily applications of formol 1. per cent., the cocain having been applied only the one time.

A SUCCESSFUL OPERATION ON A CATARACT COMPLICATED BY A DACRYOCYSTIS.*

By M. H. Post, M.D.,
ST. LOUIS, MO.

The danger of a dacryocystis as a cause of suppuration of the cornea after a cataract operation was early impressed on me. Many years ago, in watching a most successful operator perform a cataract extraction, I noticed a small particle of pus at the inner canthus. Neither the operator nor his assistant seemed to notice this, and the operation was completed most successfully; bandage properly applied, etc. But I learned afterwards that suppuration of the wound was present when the first dressings were removed and that ultimately the eye was lost.

This experience made a profound impression on me, and when a lady 64 years old, with well-marked cataract, complicated with dacryocystitis O.D. and commencing cataract O.S., applied to me for relief I was very anxious about the outcome. I was still more so when I took into account the fact that she was quite near-sighted, and that the vision of O.S. was very much reduced by old choroidal changes, making the eye with cataract complicated with dacryocystitis her only dependence for sight.

I knew of the method of tying the puncta, recommended by the late Dr. Buller, of Montreal, also of destroying the puncta with the galvano-cautery, and of the extirpation of the lacrimal sac.

I tried to get some more accurate information than my memory supplied, and was very much surprised to find nothing said about this complication in such standard text-books as Noyes, Fuchs, Norris and Oliver, Schmidt Rimplen, Meyer and some others.

In 1856, Dr. Ryer, of Sacramento, had treated the patient's dacryocystitis by inserting a gold tube, which was afterwards replaced by a lead tube, which the patient thinks is still in the canal.

When I first saw the patient, there was considerable discharge from the lacrimal sac into the conjunctival sac and also some discharge through a lacrimal fistula, from the sac on to the face.

*Reported to the Ophthalmic Section of the St. Louis Medical Society.

Examination of the urine gave neither sugar nor albumin. Cultures were made from the conjunctival sac contents, which showed only a scant growth of encapsulated pneumococci. The lacrimal sac was constantly filled with pus.

I slit the upper punctum, and ultimately succeeded in passing Nos. 1, 2 and 3 Bowman probes into the nose, but I never discovered the lost tube, nor did I ever succeed in getting an injection to pass into the nose.

I injected argyrol 25 per cent. and normal saline solution, etc., into the sac, the injections passing out through the fistula. This treatment was continued from July 16th to September 15th (two months) without any improvement, and the patient's health being poor, she went home to recuperate.

May 13th, 1907, ten months after I first saw her, eight months after the injections were stopped, she returned. My past experience made me feel that an early operation was the only thing to be considered.

Obliteration of the lacrimal sac seemed too severe an operation for one as feeble as my patient. I did not wish to close up the puncta permanently, as burning them with the galvano-cautery would have done, so I decided to ligate the canaliculi. Daily cultures were made from the contents of the conjunctival sac, almost always showing staphylococcus albus.

May 24th, 1907, I ligated the upper and lower canaliculi with black silk thread. The conjunctival sac was made as clean as possible, and the lens was extracted with an iridectomy, through an incision in the upper portion of the cornea, care being taken to have a large conjunctival flap.

After the extraction the sac was washed out with normal saline solution, then filled with a 25 per cent. solution of argyrol. Each eye was covered with a thin film of absorbent cotton saturated with a 1 to 5,000 solution of bichloride of mercury; these were covered by nicely adjusted pads of absorbent cotton, all held in place by strips of gauze fastened by contractile collodion; over this was placed a Ring mask.

How long the thread ligating the lower canaliculus remained in place is not stated in my notes; that ligating the upper canaliculus was removed May 28th, the fifth day after the operation.

As soon as possible washing out the lacrimal sac with normal saline solution was instituted night and morning. It was always done by my assistant, Dr. Shahan, or myself.

September 25th, 1907, vision O.D. 20/30.

In an admirable paper by Dr. Chas. S. Bull on operations on the eye-ball in the presence of an infected conjunctival sac, he writes: "If there be suppurative disease of the lacrimal passages, whether of the canaliculi, sac or nasal duct, all operations on the eye-ball are positively contraindicated. The lacrimal sac must be excised, the lacrimal puncta must be obliterated by the galvano-cautery, before any operation on the eye-ball be undertaken."

These are strong words from a wise man and must be given great consideration. Yet cases may arise where the general condition of the patient may make such radical measures inadvisable.

In addition to the ways mentioned for avoiding infection, I find Dr. Lippincott, of Pittsburg, states that: "If an ointment of bichloride of mercury is melted and dropped into the eye immediately after the operation the canaliculi are closed and the entrance of germs from the nasal cavity is prevented." He says: "My experience teaches me that this is a very valuable means of preventing infection in any case in which an eye-ball is to be opened." He does not state the strength of the bichloride ointment which he uses.

There were two factors producing the good result in my case; first, ligating the canaliculi; and second, the fistulous condition of the lacrimal sac, which allowed some drainage from the lacrimal sac. Though prior to the ligation of the canaliculi there was a constant discharge from the lacrimal into the conjunctival sac.

Probably the best way of ligating the canaliculi (not original with me) is to pass a very fine probe into the canaliculus; then, having passed a needle, carrying the ligature, through the lid, tie the ligature around the canaliculus, withdraw the probe and then draw the ligature as tight as one may desire.

ARE FAULTY ORBITAL DEVELOPMENTS WHICH
CAUSE HETEROPHORIA THE RESULT OF
ADENOIDS?

BY L. R. CULBERTSON, M. D.
ZANESVILLE, OHIO.

We are aware that adenoids cause imperfect development of the upper jaw, high arching of the hard palate, crowding, overlapping and faulty development of the teeth, deflection of the septum, encroachment of turbinates, etc. etc.

If the hard palate is high-arched, this would prevent the inner angle of the orbit from descending, thereby causing the orbit to slant downward and outward, which would give a plus declination of the orbit and the eye would have a plus declination. Not only would these imperfect developments of the upper jaw cause plus or minus declinations, but they would give the orbit an upward or downward pitch with the horizon.

Dr. George T. Stevens, of New York, some ten years ago thoroughly investigated the cause of declinations of the eye. He found that they are due to faulty development of the orbit, i. e., declinations in or out, downward or upward.

In my limited practice I have noticed that a large number of children suffering from adenoids had heterophoric or strabismic errors.

I would suggest that my confrères of large hospital or private practice thoroughly investigate this subject.

If, by early operation for removal of adenoids and enlarged tonsils, we can cause these orbits to develop properly, thereby preventing heterophoric errors, we will have bestowed a blessing on mankind.

MEDICAL SOCIETIES.

OPHTHALMIC SECTION. ST. LOUIS MEDICAL SOCIETY.

Meeting of May 14, 1908.
Dr. A. E. EWING, Presiding.

Removal of a Steel Fragment from the Vitreous (Presentation of Patient and Specimen).—Dr. J. F. Shoemaker.

Dr. Shoemaker showed a piece of steel, which by means of the large magnet, had been withdrawn from the vitreous through the lens and removed through the original wound. When using the magnet the fragment had dropped into the lower part of the anterior chamber, and Dr. Shoemaker had to consider whether it would be better surgery to make a corneal section and withdraw it that way or attempt to withdraw it through the original wound. He chose the latter course.

DISCUSSION.

Dr. Green, Jr., stated that one aspect of the case presented by Dr. Shoemaker, namely, the likelihood of injury to Descemet's membrane from the metallic fragment striking forcibly against the posterior surface of the cornea, reminded him of a case seen about two years ago. A patient presented himself with a cataractous lens in which a fragment of steel was imbedded. The giant magnet was first used with the idea of loosening, but not dislodging the fragment from its lenticular bed. However, at the first application the fragment sprang out of the lens and dropped into the anterior chamber. An incision through the cornea permitted the introduction of the hand magnet, and the fragment was drawn up toward the wound, but fell back into the space behind the iris. After repeated attempts, the fragment was finally withdrawn. In the course of manipulations it was dashed repeatedly against Descemet's membrane. The wound healed promptly, and he could not convince himself that Descemet's membrane had sustained any note-worthy damage.

Dr. Carl Barck thought that in most of these cases it was safer to make a corneal section. In an effort to extract through the

original wound, two factors must be taken into consideration: (1) it was not advisable unless the patient was seen shortly after the injury, because of the adhesions which might have resulted; and (2), it must depend upon the size and form of the foreign body. In the case of a foreign body of irregular formation, it was more dangerous to remove it through the wound than to make a corneal section.

A Further Report on a Case of Quadrant Anopsia. (Presented to the Section at the November Meeting).—Dr. Llewellyn Williamson.

Dr. Williamson recalled to the memory of the Section, the case of quadrant anopsia, presented by him at the November meeting, at which time the visual defect involved the entire lower and outer part of the left field from the 75 to the 180 meridian, and the entire lower inner part of the right field from the 75 to the 180 meridian. The defects as shown by the perimeter at that time, were homonymous and strikingly regular, the extent of the scotoma being absolutely the same in both eyes. The cause of this defect had been diagnosed at that time, as a hæmorrhage in the region of the calcarine fissure on the right side. That the diagnosis was probably correct, and that there had been an absorption of the hæmorrhage to a large extent, was shown by visual charts now presented.

There is still a homonymous defect, regular and of equal size in each field but involving a much smaller area than formerly. Instead of the complete quadrant defect extending from the 75 to 180 meridian and reaching well into the fixation point, the defect at present is only a slight V extending from the 75 to the 105 meridian and extending no nearer than 30 degrees to the fixation point.

The man himself reports that his vision is very much improved and that the peculiar feature which directed him to an oculist, that of seeing half a word or object looked at, has entirely disappeared.

This supplementary report is made to the Section because it is interesting that a hæmorrhage of his kind should be so completely absorbed without leaving any permanent traces of injury behind.

DISCUSSION.

Dr. Carl Barck thought cases of this kind exceedingly interesting. There were not so many on record and the members of the

Section should be grateful to Dr. Williamson for showing the second field of vision. It would be interesting to see another field in a few months.

A Piece of Steel Removed from the Vitreous by Means of the Hand-Magnet.—Dr. Henry Muetze.

The patient, a railroad laborer 40 years of age, presented himself April 25, 1908. On April 21, 1908, in holding down a rail while it was being cut, something suddenly struck him in the left eye, causing immediate blindness. Inspection revealed a perforating horizontal cut, extending from the center of the cornea outwards to the limbus, hypopyon and traumatic cataract. Vision was completely abolished.

The missile, a short piece of steel weighing about a grain, was easily located in the vitreous by the X-ray and extracted under ether anæsthesia by the hand-magnet, through a scleral incision between the superior and external recti muscles. As on previous occasions, some difficulty had been experienced in extricating the foreign body from the wound. A cut of an aluminum instrument was shown, by the introduction of which extraction would be greatly facilitated.

DISCUSSION.

Dr. Barck believed that in all instances where a foreign body entered through the sclera and the lens was intact, the giant magnet was contraindicated. A corneal section would do less harm. He had tried a number of different instruments to keep the scleral wound open but this could best be done by the use of small surgical forceps. The Graefe knife was a poor instrument for a scleral section. The sclera was yielding and it was difficult to enlarge the wound with this instrument. He used an instrument about twice as wide as the Graefe knife. In the last case operated upon, he had used this knife and found afterward that he had considerably more difficulty than he had ever had with the wide knife. He used the same knife for a posterior sclerotomy. He went directly through with the knife and kept the wound open with the forceps. It might be of advantage to have the forceps made of aluminum.

A Case of Traumatic Cataract with Retention of Foreign Body in Lens for 1¾ Years.—Dr. Henry Muetze.

In October 1904, the patient, while striking a cotter pin with a hammer, was struck in the eye; sight being suddenly obscured.

Was treated for a few weeks and then resumed work. When seen by writer Dec., 1904, a very small scar in the inner part of the superior exterior quadrant of the cornea and traumatic cataract were found. Vision = fingers at 12 feet. Refused X-ray examination and possible operation. Not seen again until April, 1906, when he presented himself suffering from a contusion of the right eye-ball. Vision —O. S. was then hand-movements at 6 inches with good light-projection. Consented to be operated upon and flap extraction with iridectomy was performed June, 1906. On sixth day after operation violent iritis set in, which subsided within about a week under appropriate treatment. A dark substance like a prolapsed iris was then noticed about the center of the operation scar. Eye cocainized, and the greater part of brown mass, which felt hard to touch, removed by a sharp instrument. Loss of aqueous prevented complete removal, until several days later. The substance was not affected by the magnet and the patient thought it might have been a small piece of coal clinging to the cotter pin at the time he struck it.

Undoubtedly at the time of the injury it became imbedded in the lens and was brushed off by the inner lip of the wound during the extraction of the cataractous lens, causing the inflammatory reaction referred to. The eye healed rapidly and the patient did not report again until a week ago, almost two years after the operation. At present the eye-ball has normal tension, a good key-hole pupil and with proper lenses distance vision is 10/35 and near vision Sn. 0.75 at 6 inches.

Unilateral Dacryoadenitis of Metastatic Origin (Presentation of Patient).—Dr. Meyer Wiener.

Dr. Wiener presented a patient, age 19; family and previous history good. About a year ago had contractive gonorrhea with constant discharge, varying in degree since. Past three weeks had had practically no discharge from urethra. Few days after discharge stopped a swelling appeared over the upper and outer part of right eye. Lids swollen, oedematous and tender, could not open eye.

Examination of patient, May 6, showed marked swelling of lids in region of lacrimal glands. Swelling around lids for some distance, hard oedematous. A peculiar swollen and red area over the right temple about the size of a dollar; somewhat tender on pressure. Pre-auricular and sub-maxillary glands enlarged, no enlargement of cervical glands. Conjunctiva swollen

and so chemotic as to almost cover cornea; on eversion a large, sharp, bluish mass presented, toward the upper and outer side. Periostium at the upper orbital margin somewhat infiltrated. Temperature 99, pulse 82, respiration 24.

Diagnosis of acute dacryoadenitis due to infection from gonorrhœal toxines was made and patient put to bed after warm bath and dose of magnesium sulphate. Hot compresses applied over eye every three hours, and after each application of 10% ichthyol ointment was used. Daily improvement until May 14, when swelling had disappeared and patient was discharged..

DISCUSSION.

Dr. M. H. Post had had two of those cases of inflammation of the lacrimal glands. The first of these he had seen many years ago and at that time he had tried to find something about the condition but it was rarely mentioned. The patient was one of his friends and suffered considerably. The case was treated with warm applications. There was a formation of pus which had to be removed through the skin. Within the last six months another case had come to him with a similar condition, and dreading a similar result, he had had the patient remain at home and keep quiet. In this case he had used cold applications on the swelling. The pain was not so severe and it discharged through the conjunctival sac, followed by complete recovery. The result under cold applications was far better than the result under hot applications. In neither case was there any history of venereal infection.

Dr. Clarence Leob had had a case, the patient being a boy of twelve years. There was extreme swelling of the lid. The next day it was worse and there was hyperæmia of the conjunctiva and just above the external canthus was a hard mass. A ten per cent ichthyol salve was used and in four days the child was comparatively comfortable.

Dr. John Green, Jr., had seen a case at the Female Hospital, the patient having been sent in with a diagnosis of gonorrhœal bilateral conjunctivitis. There was a distinct swelling in the region of both lacrimal glands. The patient six months before had contracted gonorrhœa which had not been treated. A few months later there developed an arthritis and the patient was laid up for several weeks. Subsequently, the patient had another attack of gonorrhœa. The ocular condition was a metastatic gonorrhœal dacryoadenitis. The case was treated with hot compresses and

in the course of a week was so far recovered as to be able to leave the Hospital.

The whole subject of metastatic dacryoadenitis, he said, had been very thoroughly discussed at the meeting of the American Medical Association in 1907 and the general opinion seemed to be that these cases were self limiting.

Dr. Wiener said that he had used ichthyol ointment and hot applications. That was all that was used and there was no sup-puration.

The Pathological Aspect of Cerebral Decompression in Choked Disc and the Neuro-Retinitis of Bright's Disease.—Dr. N. M. Semple.

Attention was called to Dr. Cushing's address before the St. Louis Medical Society, delivered in December of last year. The part especially referred to was that reporting, very briefly, the case of a young girl, on whom a subtemporal decompression was performed. The condition of the patient was one of profound uraemia with marked cerebral manifestations. There was also intense swelling of both optic discs together with what was termed a typical "Retinitis Albuminurica". The operation was determined upon largely on account of the latter condition. The results were good temporarily—a cessation of the head-ache and vomiting, and extraordinary improvement in the neuro-retinitis.

Reference was also made to the experimental work of Drs. Cushing and Bordley, of Johns Hopkins University, carried out with the view of proving the pathological identity of the two conditions, choked disc and the neuro-retinitis albuminurica, thereby justifying subtemporal decompression in the latter condition.

(A detailed account of these experiments is to be found in the transaction of the Joint Session on Ophthalmology, and Mental and Nervous Diseases, at the meeting of the American Medical Association, Chicago, 1908.)

In order to study the question raised by the above investigation, a brief reference is made to the present conception among pathologists of the two conditions. For the pathology of choked disc, attention is called to a series of articles by Kampherstein from the clinic of Prof. Uhtoff in Breslau, which appeared in the "Klinische Monatsblätter Augenheilkunde" during 1904 and 1905. From the microscopical study of fifty-five eyes, the author comes to the conclusion that, in most cases, the pathogenesis of

choked disc is to be found in an oedema originating in the brain, from there extending along the sheaths of the optic nerve into the papilla, where it causes the acute inflammatory reaction, occurring at this point largely on account of the hard scleral ring and the resistant inelastic lamina cribrosa. This is the conception of the causation of choked disc accepted by Cushing in the article referred to, appearing in the October number of the American Journal of the Medical Sciences.

For the pathology of retinitis albuminurica, reference is made to the work of the writer as published in the March number of the American Journal of Ophthalmology. The condition is, as a rule, confined to the macular area of the retina, where profound changes may occur, yet associated with practically no involvement of the nerve head. The changes consist of an oedema involving the entire thickness of the retina, with deposits of masses of exudate of a sero-fibrinous character, eventually undergoing hyaline metamorphosis. This condition may involve the entire macular area, without changes of any marked degree occurring in the disc. That such a condition could be due to intra-cranial pressure, resulting in a damming back of the cerebro-spinal fluid along the meningeal sheath, the optic nerve seems untenable. According to the conception of the causation of choked disc as given above, such as damming back would first result in an intense swelling and oedema of the disc.

This is often the case even in the severest forms of retinitis albuminurica. That the oedema of pressure (choked disc) may eventually result in deposits of fibrin and hyaline in the surrounding retina is beyond doubt. But the pathogenesis of the two conditions is entirely different. If uræmia with cerebral complications occurs in the course of a previously existing Bright's disease with retinitis (as in Cushing's case) then a true choked disc may be added to the picture, but from the standpoint of its pathogenesis especially, should be differentiated from the pre-existing retinitis. When such a condition occurs, the serious danger to sight and the intense suffering of the patient surely justifies decompression.

DISCUSSION.

Dr. Carl Barck said that so far as he knew the first experiments were made along this line by his old teacher, Prof. Manz, of Freiburg. He was the first to demonstrate that this condition extended to the sheath of the optic nerve by injecting fluid into

the arachnoidal space of animals. He at that time showed that the condition was mainly an oedema. Afterward the theory that it was an inflammatory condition was advanced. The extension to the sheath led to interference to relieve the condition by an incision in the sheath. It was surprising how quickly the choked disc disappeared after the withdrawal of cerebro-spinal fluid.

In the case of a lady with choked disc of about 4.5 diopters, removal of a piece of parietal bone, revealed a diffuse mass and about a handful was scooped out. The lady recovered and a few weeks afterward the choked disc had entirely disappeared. She was perfectly healthy for several years but later an atrophy of the optic nerve set in. The conditions in retinitis albuminurica and choked disc were microscopically entirely different, and until more was known about the causes of nephritis it would be difficult to make any definite statements.

Dr. John Green, Jr., said that Dr. De Schweinitz took an optimistic view of the decompressive operation in the matter of saving sight. Dr. Green had observed a number of cases in which this operation had been performed and his feeling was that the optimistic views of De Schweinitz were perhaps too optimistic. Where atrophy had begun, the best to be hoped for was a cessation of the process, although De Schweinitz had reported cases in which there had been sudden restoration of vision.

Dr. W. W. Graves had hoped that Dr. Semple would tell them something about the differentiation clinically between Neuro-Retinitis and choked disc. He had been told that it was sometimes difficult to make this differential diagnosis and Cushing had said that this differentiation could not be made, but Cushing was not an ophthalmologist. Dr. Graves had recently examined a patient where the diagnosis hinged upon the possibility of making this differentiation. Cerebellar tumor had been diagnosed and there was a staggering gait and headaches, but there had been no vomiting. The opinion given by the ophthalmologist was that it was undoubtedly choked disc and the gentleman who had seen the case before Dr. Graves, thought there could be no doubt about it being a brain tumor and advised a decompressive operation. While this patient had the symptoms of tumor, not a single motor cranial nerve showed the slightest involvement. The case was seen by Dr. Williamson and Dr. Green and the consensus of opinion was that it was a retinitis with choked disc. Dr. Graves thought that the symptoms could

not be accounted for on the basis of intra-cranial pressure and that it would be impossible on the basis of the neurological symptoms to consider it a case of brain tumor. Yet this woman had been urged to submit to a decompressive operation.

Great care should be exercised in making the differential diagnosis, for however valuable a decompressive operation might be, one would not care to subject a patient with a neuro-retinitis to such a procedure. It was undesirable to subject a patient to such an operation where a lumbar puncture would do as well. Where a tumor was growing from the cerebellum the sudden relief from pressure by lumbar puncture might produce interference with the respiratory center and result in sudden death. So from a clinical stand-point it was very important to make the differential diagnosis from the fact that the therapy must be founded directly on the diagnosis.

Dr. M. A. Bliss said that the first thing the neurologist did in these cases was to call on the ophthalmologist for help, as their training was not sufficient to enable them to recognize the condition. He had seen the case that Cushing operated on last fall. The girl was about seventeen years old. His impression was that the nervous symptoms were almost identical with those produced by ordinary cerebro-spinal pressure. But the girl got very much better and the condition improved immediately following the operation. Lumbar puncture was done subsequently. In the case of a patient seen by Dr. Semple and Dr. Alt, both of whom reported a marked swelling, a lumbar puncture was done immediately after the bone was removed. The pressure was very great and there was almost immediate relief. In a few days the pulse rose from 40 to 68 or 70. In ten days the wound had healed and a second lumbar puncture was done and still later a third; and there had been a continuous improvement in the fundus. Apart from the symptoms of pain, where there were no localizing symptoms, a careful watching of the fundus made it possible to forecast the condition and be ready to relieve the pressure when it came.

Dr. Semple said that the changes in the fundus in the case mentioned by Dr. Bliss were very interesting. There had been at first merely a diffuse oedema of the disc with a little swelling, but the day before the operation, there was a typical choked disc. There was oedema giving a striated appearance along the course of the blood-vessels and after the operation the swelling and oedema of the disc rapidly decreased until now there was merely the appearance of a slight hyperæmia, although in the retina

numerous hæmorrhagic spots remained, but less in extent than at the time of operation. The veins had regained much of their normal appearance and the vision was now normal.

Keratitis Punctata Superficialis.—Dr. Meyer Wiener.

On Nov. 5, 1907, Miss B., age 21 years, came to me complaining of a sense of irritation in the right eye and of constant tearing. She was wearing O.D.+0.75 cyl. ax. 0.°O.S.+0.50 cyl ax. 75°, prescribed by me about seven months before. Visual acuity: O.D. 14/15; O.S. 14/12; whereas it had been 14/12 in either eye at the time glasses were prescribed. There was slight injection of bulbar conjunctiva O.D., with a little roughness of palpebral conjunctiva of upper lid. On close inspection with oblique illumination, cornea was seen to be studded with numerous small, round, grayish dots about 30 in number, averaging about 1 mm. or less in diameter and raised above the surface of the cornea. These could only be seen by oblique illumination or by most careful inspection in daylight.

These spots were located mostly in the center of the cornea and seemed to lie in the most superficial layers, involving only the epithelium or the epithelium and most superficial part of Bowman's membrane. The spots were not sufficiently opaque to interfere at all with a view of the fundus which appeared normal. (The left eye was in every way normal.) The eye was cocainized and scrapings taken from a couple of these little elevations and one gelatine and one agar tube inoculated. The tubes remained sterile.

An antiseptic solution was given the patient to drop in the eye at home, and an antiseptic powder was dusted into the eye, at first daily and then less often. Also cold applications used to reduce the conjunctival irritation.

The elevated spots seemed to disappear rapidly enough but left grayish dots which yielded more slowly to treatment. On Jan. 3, 1908, scarcely a trace of these dots could be seen, and on Jan. 18, when the patient was again seen, the cornea was perfectly clear with a visual acuity of 14/12.

This case answers the description of those cases reported by Major Herbert of Bombay, more closely than the superficial punctate keratitis described by Fuchs. Also those of Herbert were mostly in young girls, as in this case, and mostly monocular.

It must be rare in these parts as neither my associate, Dr. Wolfner, in his wide experience, nor myself had ever seen a case answering exactly this description.

DISCUSSION.

Dr. Muetze had seen three cases of true punctate keratitis, one, a young peasant girl whom he saw in 1895, got well in about four weeks. The second case he had seen regularly every year for the last four years. The right eye became affected about the same time each year and each time there was also an attack of influenza. The third patient was a young girl. The attack was milder than the first case and the patient got well in about four weeks. This condition always left the cornea intact, while in true herpetic conditions the cornea was permanently affected. This condition was below Bowman's membrane, while the herpetic condition always affected Bowman's membrane. The second case mentioned was very severe, the patient suffering intensely during every attack. The condition was very rare in this country.

Dr. W. H. Luedde had seen one case which at times was superficial; and the spots would break upon the surface, but at other times the spots were deeper in the epithelial layer. There seemed to have been an iritis. The condition had existed a year or two. There was some adherence of the iris to the lens. Under treatment the vision improved somewhat. One little spot came to the surface and smears were made but nothing came of the microscopic examination. There was a history of luetic taint in the family. Under one-fourth grain doses of bichloride of mercury the patient improved and the case seemed to be going on to a cure. There was no evidence of cyclitis and no involvement of Bowman's membrane.

Dr. John Green, Jr., asked if the elevations were connected by lines as in all other respects the case resembled one of malarial keratitis.

Dr. Wiener, in conclusion, said that one reason why he had reported this case aside from its rarity, was the thought that perhaps instead of its being a rare condition it merely seemed to be so. The vision never went below 14/20 and there was only lacrimation and occasionally the feeling of a foreign body.

The spots could be seen most clearly when they were getting well. According to De Schweinitz, in cases of punctate keratitis reported by him, the lesions were sometimes connected by small lines, but in his case they were not connected. If these cases were so common in India, it would seem that more of them would be seen here.

LLEWELLYN WILLIAMSON, M.D.,
Section Editor.

THE OPHTHALMOLOGICAL SOCIETY OF THE
UNITED KINGDOM.

Thursday Evening, November 12th, 1908.

The President, MR. MARCUS GUNN, in the chair.

CARD SPECIMENS.

Linear Opacity of the Cornea following Birth Injury.—Mr. R. R. James.

Girl, aged 13. The vision in the right eye with correction was 6/36' that of the left 6/6. In the right cornea, situated at about the junction of the middle with outer third, was seen a vertical band of opacity extending nearly across the cornea from above downward, and about 1 mm. broad. It occupied the deeper layers, though some parts of the band did not appear to be on the same plane as others. The history of the mother was that all her confinements had been difficult, and the present child, the last of 13, was delivered by forceps. The following day it was noticed that the right eye was swollen, and "the sight of the eye was like a bit of liver." It took six weeks for the eyeball to recover its normal appearance.

Specimen from a case of Iridocyclitis followed by perforation of the Sclerotic and Orbital Abscess.—Mr. A. L. Whitehead.

A female child, aged 4½, came with a history of 6 weeks' illness, which began with headache, vomiting, high temperature, and delirium; after 3 weeks the left eye became painful and inflamed, and 2 weeks later proptosis manifested itself. Examination showed the eyelids swollen and œdematous, with marked proptosis of the eyeball, and in the outer part of the orbit a distinct mass could be felt. The cornea was hazy, the pupil dilated, and behind the lens could be seen a yellow mass filling up the posterior chamber. The orbital abscess was opened and the eye subsequently excised. The specimen showed a perforation of the sclerotic behind the ciliary region, and the posterior chamber full of purulent exudation; the retina was detached, and the choroid infiltrated. By microscopical examination the choroid was found thickened, with much exudate and some hæmorrhages.

Crateriform Hole in the Optic Disc.—Mr. Sydney Stephenson.

This was a typical case of the kind in a little girl of about 8 years of age.

Case of Posterior Cataract commencing subsequent to prolonged exposure to X-Rays.—Mr. Leslie Paton.

M. N., aged 32, female, had good sight in both eyes 6 years ago. Since that time she had been under treatment for lupus of the cheek with X-rays. There had been 20 exposures on the right side and 18 exposures on the left. The tubes used were of the old-fashioned type, made of soda glass, and the eyes had been protected by rubber sheeting only. After each application there was slight swelling of the lids, and the eyes were occasionally bloodshot and felt gritty. The vision in June, 1908, was reduced to counting fingers at about 1 metre in both eyes. In the posterior part of each lens was a dense greyish plaque, and several granular opacities were present in other parts. Cataract extraction was performed on the right eye, preceded by a preliminary iridectomy, and the vision afterwards with correction was 6/6 and J. 1. A preliminary iridectomy has also been done on the left side.

In answer to questions, Mr. Paton said there was no evidence whatever of iridocyclitis in either eye.

Vascular Changes in Albuminuric Retinitis.—Mr. Angus MacNab.

The case, which on July 8th, 1908, gave vision as 6/6 with correction in both eyes, had sudden failure of sight in the left eye on August 22nd of the same year; and the fundus showed the typical picture of acute obstruction of the central artery of the retina. On September 5th there was retinitis, with exudation and hæmorrhage in the other eye. Albumen in the urine was discovered at the second visit, but this condition has now improved.

An examination of the left eye showed the inferior temporal artery just outside the disc to be opaque, and the same condition, though less marked, was present in the superior vessel.

Mr. MacNab considered this a case of arteriosclerosis producing thrombosis and plugging of the central artery of the retina.

Convergent Strabismus in a child 12 years old—Mr. G. Brooksbank James.

This case had been treated in the usual way for 3 years with

glasses and orthoptic exercises with no improvement. An advancement of the external rectus was then performed and perfect stereoscopic vision resulted. The same treatment was adopted in another case, where convergent strabismus had occurred following interstitial keratitis, and the same result as regards stereoscopic vision was obtained.

Acute Optic Neuritis in one eye, with changes of the Macula, in a girl without any evidence of constitutional disturbance.
—Dr. Rayner Batten.

A. H., aged 16, came for treatment on October 22nd, 1908, on account of sudden failure of sight in the left eye. The patient was myopic, and with —6 sphere in each eye, the vision was 6/12 in the right and 6/60 in the left. In June, 1908, the sight had been equally good in the two eyes. Examination, made on October 29th, showed optic neuritis in the left eye with 4D of swelling; there was also some oedema and a star-shaped figure at the macula. On November 9th the swelling was subsiding, so that the highest measurement was only 2D, and the vision had improved to 6/36; a central scotoma for red and blue was present. No cause could be discovered to account for this condition.

PAPERS.

A case of Orbital Abscess following Retinal Embolism.—Mr. A. L. Whitehead.

Mary L., aged 42, came for advice on March 22nd, 1908. She was married and had five healthy children, the last 3 years ago; menstruation had ceased 12 months. On March 7th, 1908, she commenced to suffer from pain in the right shoulder with shivering and rise of temperature, lasting 10 days. On March 17th the right eye became dim and in a few hours was practically blind. Towards evening the eye became congested and painful, and in 3 days proptosis developed. Five days later this latter had increased considerably and there was some swelling of the orbital tissues behind the eyeball. The cornea was steamy, there was some iritis with hypopyon and the whole of the anterior chamber was hazy. Examination of the heart gave evidence of a systolic murmur, but no focus of suppuration could be found anywhere in the body. Incisions were made into the orbit and the fluid contents evacuated; the eyeball was then excised and pus was found escaping from a hole in the posterior and outer part of the

sclerotic. Four days later an axillary abscess developed, which was opened, and healing took place rapidly. On April 25th the patient returned home, and the systolic murmur was much less marked.

Mr. Whitehead considered this to be a case of endogenous panophthalmitis of embolic origin, arising from the cardiac lesion, though he thought that even on this interpretation the orbital cellulitis with perforation was not common.

In the discussion on the bacteriology of the case, which followed, Mr. Whitehead remarked that the contents of the orbital abscess showed diplococci, but that no organism could be discovered in the pus from the axilla. There had been no examination of the blood made.

Nodular Opacity of the Cornea in three Generations.—Mr. Herbert H. Folker.

This paper was accompanied by 4 drawings, shown as lantern slides and a genealogical chart.

Harriet R., aged 21, married, has had defective sight as long as she can remember. She has been the subject of two attacks of inflammation, one 13 years ago, and the other last year, each attack being slight. She is one of 11 children, and at the present time has a baby 10 weeks old; she has also noticed that since her confinement her vision has been worse. She was found to have central greyish opacities in both eyes confined to the anterior layers of the substantia propria; some of them, being less dense in the centre, suggest funnel-shaped depressions; but the epithelial surface is quite smooth. There was no straining, and the vision in both eyes was 6/18.

The character of this opacity being of the congenital nodular type led Mr. Folker to make enquiries into the family history, with the result that the genealogy was traced back to an old man of 92, who, with his wife, was still alive and had had 13 children. He himself had irregular white opacities occupying the central region of the cornea which were very dense; and the defect of vision resulting had been so great that iridectomies inwards had been performed in both eyes. He could only count fingers at 1 metre.

Seven other cases in this family were described, 4 male and 3 female, the eldest being 50 and the youngest 12. All showed opacities of the cornea occupying the central area only, and varying in density in different cases. The youngest members ex-

hibited only a slight dotted appearance, but in the older ones the opacities were much thicker and in some the separate areas showed signs of coalescing into one mass.

From the above cases Mr. Folker deduced three points, viz.: —1. That the condition is undoubtedly hereditary. 2. The absence of unevenness of elevation of the epithelium. 3. Presence of lattice work arrangement of lines in one case. The etiology is doubtful and has been ascribed to different causes by various observers. Groenouw considered the opacities as due to hyaline deposits, while Chevallerat found crystals of urate of soda; but Parsons is of opinion that some general agent is the origin of the corneal condition.

The questions which suggest themselves are whether there is a limit to the life of the disease, or whether it can wear itself out in succeeding generations, and what treatment is most advisable.

In the subsequent discussion on this paper Mr. Holmes Spicer spoke decidedly as to the progressive character of the disease, a view which was supported by Mr. Treacher Collins. Mr. MacNab put forward the suggestion of some tubercular diathesis being associated with this condition.

MALCOLM L. HEPBURN.

CONNECTION BETWEEN PHLYCTENULAR EYE AFFECTIONS AND TUBERCULOSIS.

Shütz and Videky (*Wiener Klinische Wochenschrift*, Sept. 10), having studied the tubercular reactions in forty-nine cases of phlyctenular eye diseases, conclude that we can not depend upon the Pirquet cutaneous reaction, but that the subcutaneous reaction is sensitive and reliable. A certain proportion of phlyctenular eye affections are of tubercular origin, but not all, and it is highly desirable to differentiate the two forms in the treatment of these cases. The tubercular form requires different dietetic treatment and recovers more promptly under the use of tuberculin. The recurrence of the phlyctenæ may be looked upon as a specific focal reaction. The findings in over one hundred cases of various eye affections in which the different tuberculus tests were made are tabulated.

ABSTRACTS FROM MEDICAL LITERATURE

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

PALLIATIVE TREPHINING IN CHOKED DISC.

Von Hippel (*Munchener Medizinische Wochenschrift*, Sept. 15) discusses this operation as a preventive of blindness as the result of venous stasis in the nerve, although it interests not only the ophthalmologist, but the otologist, the neurologist and the surgeon as well, since it belongs to the borderland of their specialties. Neurologists and surgeons have long known that not only will the removing of some diseased focus within the cranial cravity cause a subsidence of a choked disc, but the simple opening of the skull often accomplishes the same result. The author states that of 221 patients 53 died after the operation; of the remaining 168 the choked disc retrograded in 100, did not retrograde in 18, and no statements were made in regard to this matter in the report of the others. He believes that the prognosis for vision is good when the patient is operated upon early while there is still useful vision, but unfavorable, if not bad, when the vision is useless or lost at the time of operation. It is emphasized that the operation is not without danger, but at the same time it is one we are justified in recommending since without it blindness is almost sure to follow, while if it is done at the proper time, the prognosis is good.

THE SIGNIFICATION OF DISEASES OF THE OPTIC NERVE IN THE EARLY STAGES OF MULTIPLE SCLEROSIS.

Schley (*Berliner Klinische Wochenschrift*, Sept. 28) states that diseased conditions of the optic nerve occur quite often in multiple sclerosis and frequently appear before other symptoms of the disease, when the differential diagnosis is often very difficult. Among the conditions which must be excluded are syphilitic neuritis, toxic neuritis from a variety of poisons, tumor of the brain, and if the nerve appears normal hysteria. The ophthalmoscopic changes and the clinical eye symptoms of the disease are greatly varied.

REFLEX NEUROSES ARISING FROM OCULAR AND NASAL ABNORMITIES.

S. Lewis Ziegler (*N. Y. Med. Jour.*, Nov. 7) discusses some of the individual manifestations of reflex neuroses caused by ocular and nasal abnormal conditions and also the most frequent of these conditions that produce reflex troubles. In conclusion he offers the following salient points:

1. The eye and the nose are undoubtedly most important factors in the ætiology of reflex neuroses and should, therefore, be carefully examined and positively excluded before beginning a search for other causes.

2. Ocular and nasal reflexes possess many manifestations in common, which should be carefully differentiated at the earliest possible moment.

3. Eyestrains, whether from ametropia, subnormal accommodation, or muscular imbalance, should be carefully corrected in order to eliminate the eye as a causative factor.

4. An atrophied eyeball, with contracting ciliary scar, should be enucleated.

5. Pressure contact in the nose will always excite some reflex disturbance when any hyperæsthetic area is impinged upon, and should, therefore, be eliminated.

6. Every obstruction to free breathing should be removed.

7. Recurrence of any reflex neurosis demands re-examination and renewed search for the original exciting cause.

CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA.

C. O. Hawthorne (*London Lancet*, Sept. 19) believes that in addition to certain acute and serious complications occurring in anæmic women, numerous lesser disturbances also owe their origin to clotting of the blood within the vessels. Among these disturbances or complications are those arising from thrombosis in the intracranial veins and sinuses. Double optic neuritis is occasionally one of the accompanying symptoms of a severe or fatal attack occurring in anæmic women. If these symptoms are due to a thrombosis of one of the veins in the skull, may it not be fair to conclude that intracranial venous thrombosis is a cause of double optic neuritis? He holds that intracranial sinus and venous thromboses are the cause of the more or less severe attacks which sometimes complicate the course of chlorosis, and

that such thromboses may include among their consequences both double optic neuritis and ocular or other limited palsies. Still other disturbances resulting from anæmic thrombosis are changes in the visual fields, retinal embolism and occasionally retrobulbar neuritis. His conclusions are as follows:

In the practical sphere, the suggestion that optic neuritis, ocular paralysis, hemianopsia or other abnormalities of the visual field, retinal embolism and retrobulbar neuritis, occurring in anæmic patients are probably due to thrombosis, is significant, because on such interpretation any one or more of these events appearing in an individual case must be accepted as the sign of a tendency to thrombosis in an unusually marked degree, and must, therefore, claim the prompt application of the therapeutic measures which such a conclusion demands.

THE OCULAR REACTION TO TUBERCULIN.

With Report of 202 Cases.

Oscar H. Wilson (*Jour. A. M. A.*, Nov. 28), from the study of his cases as well as the literature on the subject offers the following conclusions:

1. A positive reaction is fairly reliable evidence of the existence of tuberculosis.
2. A negative result does not exclude the possible presence of tuberculosis.
3. In properly selected cases and with tuberculin of proper strength, the test is free from any serious danger.
4. Tuberculin solutions of 0.5 per cent, are to be preferred in all cases; solutions of greater strength should rarely, if ever, be employed.
5. The test is of value from the standpoint of prognosis. A prompt and vigorous reaction indicating that the patient is successfully combating the disease.
6. Very advanced and moribund cases fail to react, also cases of miliary tuberculosis.
7. The administration of tuberculin in moderate amounts, subcutaneously, will not develop the reaction in healthy persons. In tuberculous patients it accentuates the pre-existing inflammation, and may cause the appearance of the reaction. It apparently fails to develop the reaction in cases of acute miliary tuberculosis.
8. The theory of the existence of the state of anaphylaxis or local hypersusceptibility best explains the occurrence of the reaction.

9. No more than two instillations should be made, the opposite eye being employed for the second test.

10. The state of anaphylaxis or local hypersusceptibility produced in healthy persons is apparently not transferred to the opposite eye.

11. The sensitization in the eye does not seem to be followed by a general hypersusceptibility, manifested by a reaction to the subcutaneous injection of tuberculin.

12. In the great majority of cases no constitutional symptoms are associated with the reaction. No alteration occurs in the physical signs, such as frequently occurs following the administration of tuberculin subcutaneously.

13. A certain proportion of enteric fever cases give a positive reaction. This is most apt to occur in patients who are convalescing.

14. As yet there is no definite evidence for regarding it as a group reaction.

15. When the lesion is well healed and inactive a negative result is often obtained.

16. The test should not be resorted to if the diagnosis can be made by physical signs and symptoms.

OPHTHALMOLOGY FOR GENERAL PRACTITIONERS.

Leartus Connor (*Jour. A. M. A.*, Nov. 28) states that a study of all American medical college announcements as related to their "ophthalmology for students of general practice" showed:

1. An utter lack of uniform requirement in hours of study, subjects studied or amounts of such study, in clinics, recitations or demonstrations.

2. Such a mixture of general practice ophthalmology with special as is confusing to both general and special students.

3. Not one institution made clear what the student must know and be able to do.

His conclusions are as follow:

1. General practice ophthalmology is all of ophthalmology the student can master without violence to other courses, and a family physician can practice in harmony with his work.

2. It includes four factors—the ability to recognize and treat eye injuries (except foreign bodies within the eyeball); the recognition and treatment of all eye infections and diseases of the uveal tract; the recognition and management of simple presbyopia, simple myopia and simple hyperopia.

3. The best interests of the profession and laity demand a mastery of general practice ophthalmology by every physician.

4. The medical college obstacles to this can be removed (1) by eliminating from every course all chaff; (2) by adjusting the proportion of courses to the actual needs of the family physician, and (3) by insisting that all the professors be trained in the art of pedagogy, as well as the art of medicine.

5. The machinery of state medical societies and the American Medical Association should be used to awaken the interest of licensed physicians and induce registration boards and medical colleges to place among their requirements a "general practice ophthalmology."

OCULAR SYMPTOMS OF BRAIN TUMOR.

J. H. Ohly (*Long Island Med. Jr.*, August) says that while almost every kind of tumor may occur in the brain the more common forms are: glioma, tubercle, sarcoma and syphilitic gumma. Less frequently are found carcinoma, fibroma, lipoma and cysts. Gliomas vary in size from that of a hazel nut to that of an egg, while sarcomas are usually larger. Optic neuritis or choked disc, although occurring in from 80 to 90 per cent. of the cases, is not a localizing symptom. Tumors of the occipital lobe, cerebellum, pons and medulla are likely to cause a severe double-sided choked disc, which may be an early symptom. In the early stages of tumors transitory blindness is not infrequent, while permanent blindness, not dependent on local optic nerve involvement, may be an early or late occurrence. Tumors of the chiasm generally cause bitemporal hemianopsia; of the optic tract, more central than the chiasm, hemianopsia; if located in the optic thalamus or between it and the chiasm, Wernicke's hemianopic pupillary reaction is present, while this sign will be absent if the tumor is located in the optic radiations or visual centers. Ocular palsies are likely to be caused by direct pressure when the tumors are at the base of the brain, while such palsies may be produced by indirect pressure when the tumor is situated in other portions of the brain. On account of the varied pressure and the greater involvement of the brain tissue the ocular symptom may vary greatly from time to time. Diagnosis of the presence of a tumor is the first aim, and in this the ocular symptoms are of great assistance as also in the location of the site of the tumor, which is next in importance to the diagnosis of its presence.

